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EXAMINER

MERED, HABTE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/523,695	Applicant(s) AIZU ET AL.	
	Examiner HABTE MERED	Art Unit 2474	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/8/09.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-39 and 41-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29-39 and 41-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed on 7/8/2009 has been entered and fully considered.
2. Claims 29-39 and 41-53 are pending and previously presented. Claim 40 is currently canceled and claims 1-28 were previously cancelled. Claims 29, 42, 45, and 48 are the base independent claims. All of the base independent claims are amended.

Response to Arguments

3. In the Remarks, on page 10, Applicant details the agreement reached between the Examiner and the Applicant in a telephone interview on June 23, 2009. The agreement reached was to amend the independent claims with the subject matter claimed in claim 40 as related to how the internet terminal directly or indirectly controls the polled devices. However simply putting the limitation of dependent claim 40 into the independent claims will not overcome the cited prior arts.

Dependent claim 40, now cancelled, effectively requires detecting a longest response interval as the holding period in the router. It is clear by Applicant's own admission in the published specification in paragraph 81 that the prior art routers keep the relationship between global and local address in the router for a certain period of time based on the last response of the last packet which could be as long as 3 minutes. The prior arts cited Kaito'532 and Sen do teach the same concept. Kaito'532 has an adjustment unit (Fig. 5 element 207) for determining the longest holding period as detailed in paragraphs 136, 161, and 191. More over Sen in Section 6.2 on page 7

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clearly shows the detected longest holding period can be 1-3 minutes and the keep-alive message has to be sent often before the holding period expires like Applicant's disclosure in paragraph 81.

However, if the independent claims are amended to indicate that

"...said adjustment unit is operable to detect a longest response interval as the holding period in the router out of a plurality of response data sent by the server apparatus in response to the plurality of data sent by said terminal apparatus; and the corresponding relationship between the global address and the local address is always maintained as long as the terminal apparatus sends data packets to the router at a polling interval shorter than the holding period."

It is the position of the Examiner that the above stated feature distinguishes the Applicant's claimed invention from all of the previously cited prior arts and clearly conveys what Examiner meant by "how the internet terminal directly or indirectly controls the polled devices" during the phone interview of June 23rd. Examiner contacted Applicant's representatives to possibly further amend the independent claims. However due to time constraint in consulting the Applicant in approving the proposed limitation, the Applicant's representative preferred to get a written response to consider the Examiner's suggestion and further consult with the Applicant.

4. The rejections of claims 45-48 under U.S.C. 101 has not been overcome by Applicant's amendments to these claims. Even though claim 45 is amended to reflect a computer readable storage medium, still claim's 45-48 claim a software program. A computer executable program is not statutory under U.S.C. 101 because it is not directed to one of the four statutory categories under U.S.C. 101 which include process, machine, manufacture and composition of matter. Applicant can simply overcome the

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rejections by rephrasing the claims to state a computer readable non-transitory media storing a computer executable program for...

Claim Rejections - 35 USC § 101

5. **Claims 45-48** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. These claims are non-statutory as they are being directed to a computer program and directly claim a software computer executable program.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 29-39 and 41-53** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaito et al (US Pub. 2001/0029532) in view of Sen et al (Sen et al, Internet Draft Midcom-unaware NAT/Firewall Traversal, April 2002).

Regarding **Claim 29**, Kaito'532 discloses a terminal apparatus (**i.e. Figure 4, element 102**) for sending and receiving data to and from a router (**i.e. Figure 4, element 101**) that is connected to an external network (**i.e. Figure 4, Internet**) to which a server apparatus (**i.e. Figure 4, element 106**) is connected,

the terminal apparatus (**i.e. Figure 4, element 102**) being connected to the router (**i.e. Figure 4, element 101**) via a home network (**see Fig. 4 In-home network**)

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and the router holding a corresponding relationship between a global address assigned to the router and a local address of the terminal apparatus **(In paragraphs 138-139 Kaito'532 discloses address conversion unit 209 shown in Figure 5 and contains relationship between global and local address)** for a predetermined period of time **(i.e. Polling Interval - where the session is up)**, the terminal apparatus comprising:

a communication unit **(i.e. Figure 4, element 102 - the PDA communication interface unit has infrared ports)** operable to send and receive data to and from the server apparatus **(i.e. Figure 4, element 106)** via the router during a polling (i.e. inquiry interval – paragraphs 175 and 177) interval (i.e. Figure 4, element 101 – see also showing terminal element 104 communicating with server element 106 through router device 101); and

an adjustment unit **(i.e. Figure 5 element 207)** operable to detect a holding period during which the corresponding relationship is held in the router **(See paragraph 162 lines 7-8 indicating the polling interval is adjusted and stored)**; wherein the communication unit is operable to send the data repeatedly to the router according to the sending interval **(See paragraphs 160-163 indicating the terminal continuously sending data to the router within the polling interval)**; and

said adjustment unit (i.e. Figure 5 element 207) is operable to detect a longest response interval as the holding period (i.e. PUT receiving intervals – paragraph 163) in the router (i.e. Fig. 4 Gateway 101) out of a plurality of response data sent by the server apparatus (i.e. Fig. 4 HTTP server) in response to the plurality of data sent by said terminal apparatus (i.e. Figure 4, element 102 is the terminal apparatus. As

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detailed paragraphs 136 and 163 the gateway 101 of Figure 4 can tell the longest response interval stored between the consecutive HTML packets and PUT packets intervals to determine the holding interval).

Kaito'532 fails to disclose setting a period shorter than the holding period as a sending interval at which the data is sent.

However, the above mentioned claimed limitations are well known in the art as evidenced by Sen. In particular, Sen discloses setting a period shorter than the holding period **(i.e. timeout period varies between 1 to 3 minutes)** as a sending interval **(i.e. keep alive frequency)** at which the data is sent **(“PING” keep alive sent message sent periodically to the router/NAT – see page 7, lines 3-11 shorter than the hold or timeout period and RTP packets are sent to keep the connection through the Router/NAT alive as detailed in lines 6-20 of page 11).**

In view of the above, having the apparatus of Kaito'532 and then given the well established teaching of Sen, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the apparatus of Kaito'532 as taught by Sen, since Sen clearly states in on page 11, lines 3-11 that the modification results in keeping the connection through a router/NAT such as Kaito'532's Gateway router 101.

Regarding **claim 30**, Kaito'532 discloses a terminal apparatus wherein: a mobile terminal device **(i.e. Figure 4, PDA)** sends a control request to the terminal apparatus **(Figure 4, element 101)**; and the communication unit **(Figure 4, element 102 infrared**

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port – paragraph 171) is operable to receive the control request via the router **(See Figure 4 where PDA sending request to terminal apparatus 102 through server 106 and then through router 101).**

Regarding **claim 31**, Kaito'532 discloses a terminal apparatus **(i.e. Figure 4's terminal apparatus 102)** further comprising: a control unit **(i.e. Figure 9, element 207)** operable to control the terminal apparatus according to the control request **(See paragraphs 151-152 where the control unit 207 controls terminal 102 based on command control request).**

Regarding **claim 32**, Kaito'532 discloses a terminal apparatus wherein: a plurality of apparatuses are connected to the terminal apparatus via the home network **(See Figures 4 and 13 where In-home network has a plurality of terminals);**

each apparatus of the plurality of apparatuses includes an apparatus control unit operable to control the apparatus itself **(every electronic unit has some rudimentary control unit) ;**

the communication unit **(Figure 9, element 208)** is operable to send the control request to each apparatus **(i.e. all terminals connected to in-home network can communicate with each other);** and

the apparatus control unit of each apparatus is operable to control the respective terminal apparatus according to the received control request **(See paragraphs 160-162**

where the control unit 207 of Fig. 9 control terminal 102 of Fig. 4 based on command control request).

Regarding **claim 33**, Kaito'532 discloses a terminal apparatus further comprising: a generation unit **(packet processing unit 204 of Figure 9)** operable to generate data to be sent to the server apparatus **(Figure 9, element 204 generates data to be sent to server 106 of Figure 4);**

wherein the generation unit is operable to generate the data that includes at least the following information in a header part: the local address of the terminal apparatus as a sender's address**(Kaito'532 discloses in paragraph 157 the header contains local address as sender address);**

a local port number of the terminal apparatus as a sender's port number **(See paragraph 166);**

an address of the server apparatus as a destination address **(See paragraph 170);** and a port number of the server apparatus as a destination port number, and to generate the data that includes at least the following information in a data part **(See paragraph 134 showing the destination port number is the port number of server 106 of Figure 4):** a unique terminal ID of the terminal apparatus **(Kaito'532 shows a unique home electronics ID in Fig. 6 element 303 included in the header).**

Regarding **claim 34**, Kaito'532 discloses a terminal apparatus wherein: a mobile terminal device **(i.e. Figure 4, PDA)** sends a control request to the terminal apparatus

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(Figure 4, element 102); and the communication unit (Figure 9, element 202) is operable to receive the control request via the router (See Figure 4 where the PDA is sending request to terminal apparatus 102 through server 106 and then through router/gateway 101).

Regarding **claim 35**, Kaito'532 discloses a terminal apparatus (i.e. **Figure 4's terminal apparatus 102 is detailed in Figure 9**) further comprising: a control unit (i.e. **Figure 9, element 207**) operable to control the terminal apparatus according to the control request (**See paragraph 151 where the control unit 207 control terminal 102 based on command control request**).

Regarding **claim 36**, Kaito'532 discloses a terminal apparatus wherein: a plurality of apparatuses are connected to the terminal apparatus via the home network (**See Figure 4 where in-home network has a plurality of terminals**);

each apparatus of the plurality of apparatuses includes an apparatus control unit operable to control the apparatus itself (**i.e. every electronic device has some rudimentary control unit**);

the communication unit (**Figure 9, element 208**) is operable to send the control request to each apparatus (**i.e. all terminals connected to in-home network can communicate with each other**); and

the apparatus control unit of each apparatus is operable to control the respective terminal apparatus according to the received control request (**See paragraphs 160-162**

where the control unit 207 of Fig. 9 control terminal 102 of Fig. 4 based on command control request).

Regarding **claim 37**, Kaito'532 discloses a terminal apparatus further comprising: a generation unit (**packet processing unit 204 of Figure 9**) operable to generate data to be sent to the server apparatus (**Figure 9, element 204 generates data to be sent to server 106 of Figure 4**);

wherein the generation unit is operable to generate the data that includes at least the following information in a header part: the local address of the terminal apparatus as a sender's address(**Kaito'532 discloses in paragraph 157 the header contains local address as sender address**);

a local port number of the terminal apparatus as a sender's port number (**See paragraph 166**);

an address of the server apparatus as a destination address (**See paragraph 170**); and a port number of the server apparatus as a destination port number, and to generate the data that includes at least the following information in a data part (**See paragraph 134 showing the destination port number is the port number of server 106 of Figure 4**): a response interval at which response data is sent as a response from the server apparatus (**Kaito'532 in paragraph 162 shows a response interval**).

Regarding **claim 38**, the combination of Kaito'532 and Sen discloses a terminal apparatus, wherein the adjustment unit is operable to adjust the sending interval (**i.e.**

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polling interval) to become shortened when the communication unit has not received the response data from the router within the sending interval (**Kaito'532 discloses adjusting the response interval in paragraph 162**).

Regarding **claim 39**, the combination of Kaito'532 and Sen discloses a terminal apparatus, wherein the generation unit is operable to generate a plurality of data with different response intervals (**i.e. Kaito'532 Figure 9, element 208 is the generation unit sending packets at different intervals without exceeding the polling interval**) ;

the communication unit (**i.e. Kaito'532 Figure 9, element 202**) is operable to send the plurality of data generated by the generation unit (**element 202 sends packet generated by element 204 in Kaito's Figure 9**); and

the adjustment unit (**(i.e. Kaito'532's Figure 5 element 207)**) is operable to detect the holding period (**i.e. poling period**) during which the corresponding relationship is held in the router from the response interval at which the response data is sent (**as detailed in paragraph 136 the terminal 102 of Figure 4 can tell the polling interval stored in the router from the consecutive HTML packets**).

Regarding **claim 41**, Kaito'532 discloses a terminal apparatus wherein the server apparatus (**Server 106 of Figure 4**) includes:

a second communication (**Figure 4, element 31**) unit operable to send and receive the data (**Figure 4 server uses element 31 for sending and receiving data**);

a response interval adjustment unit (**Figure 4, element 505**) operable to obtain the response interval at which the response data is sent to the terminal apparatus, the response interval being included in the data, and to determine a response period during which the response data should be sent (**Sen discloses in page 7, lines 3-11 sending Ping Keep alive messages and RTP packets are sent to keep the connection through the Router/NAT alive as detailed in lines 6-20 of page 11 and these packets contain indication of polling interval**); and

a second generation unit (**See Figure 1, element 204**) operable to generate the response data to be sent to terminal apparatus (**Figure 4, element 106 sends data to Figure 4's terminal 102**);

wherein the second communication unit (**Figure 1, element 202**) is operable to send, to the router, the response data generated by the second generation unit according to the response period (**based on paragraph 162 element 202 sends data based on response or polling period or interval**).

Regarding **Claim 42**, Kaito'532 discloses a communication method for use with a terminal apparatus (**i.e. Figure 4, element 102**) for sending and receiving data to and from a router (**i.e. Figure 4, element 101**) that is connected to an external network (**i.e. Figure 4, Internet**) to which a server apparatus (**i.e. Figure 4, element 106**) is connected,

the terminal apparatus (**i.e. Figure 4, element 102**) being connected to the router (**i.e. Figure 4, element 101**) via a home network (**see Fig. 4 In-home network**)

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and the router holding a corresponding relationship between a global address assigned to the router and a local address of the terminal apparatus (**In paragraphs 138-139 Kaito'532 discloses address conversion unit 209 shown in Figure 5 and contains relationship between global and local address**) for a predetermined period of time (**i.e. Polling Interval - where the session is up**), the communication method comprising:

sending and receiving data to and from the server apparatus (**i.e. Figure 4, element 106**) via the router during a polling (i.e. inquiry interval – paragraphs 175 and 177) interval (**i.e. Figure 4, element 101– see also showing terminal element 104 communicating with server element 106 through router device 101**); and

detecting a holding period during which the corresponding relationship is held in the router (**See paragraph 162 lines 7-8 indicating the polling interval is adjusted and stored**); wherein the communication unit is operable to send the data repeatedly to the router according to the sending interval (**See paragraphs 160-163 indicating the terminal continuously sending data to the router within the polling interval**), and

a longest response interval is detected as the holding period (i.e. PUT receiving intervals – paragraph 163) in the router (i.e. Fig. 4 Gateway 101) out of a plurality of response data sent by the server apparatus (i.e. Fig. 4 HTTP server) in response to the plurality of data sent (**As detailed paragraphs 136 and 163 the gateway 101 of Figure 4 can tell the longest response interval stored between the consecutive HTML packets and PUT packets intervals to determine the holding interval**).

Kaito'532 fails to disclose setting a period shorter than the holding period as a sending interval at which the data is sent.

However, the above mentioned claimed limitations are well known in the art as evidenced by Sen. In particular, Sen discloses setting a period shorter than the holding period (**i.e. timeout period varies between 1 to 3 minutes**) as a sending interval (**i.e. keep alive frequency**) at which the data is sent (**“PING” keep alive sent message sent periodically to the router/NAT – see page 7, lines 3-11 shorter than the hold or timeout period and RTP packets are sent to keep the connection through the Router/NAT alive as detailed in lines 6-20 of page 11**).

In view of the above, having the method of Kaito'532 and then given the well established teaching of Sen, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the method of Kaito'532 as taught by Sen, since Sen clearly states in on page 11, lines 3-11 that the modification results in keeping the connection through a router/NAT such as Kaito'532 's router/gateway.

Regarding **claim 43**, it is noted that the limitations of claim 43 corresponds to that of claim 33 as discussed above, please see the Examiner's comments with respect to claim 33 as set forth in the rejection above.

Regarding **claim 44**, it is noted that the limitations of claim 44 corresponds to that of claim 37 as discussed above, please see the Examiner's comments with respect to claim 37 as set forth in the rejection above.

Regarding **Claim 45**, Kaito'532 discloses a computer executable program stored on a computer-readable storage medium for use with a terminal apparatus (**i.e. Figure 4, element 102**) for sending and receiving data to and from a router (**i.e. Figure 4, element 101**) that is connected to an external network (**i.e. Figure 4, Internet**) to which a server apparatus (**i.e. Figure 4, element 106**) is connected,

the terminal apparatus (**i.e. Figure 4, element 102**) being connected to the router (**i.e. Figure 4, element 101**) via a home network (**see Fig. 4 In-home network**) and the router holding a corresponding relationship between a global address assigned to the router and a local address of the terminal apparatus (**In paragraphs 138-139 Kaito'532 discloses address conversion unit 209 shown in Figure 5 and contains relationship between global and local address**) for a predetermined period of time (**i.e. Polling Interval - where the session is up**), the computer executable program causing the terminal apparatus to perform steps comprising:

sending and receiving data to and from the server apparatus (**i.e. Figure 4, element 106**) via the router during a polling (**i.e. inquiry interval – paragraphs 175 and 177) interval** (**i.e. Figure 4, element 101– see also showing terminal element 104 communicating with server element 106 through router device 101**); and

for detecting of a holding period during which the corresponding relationship is held in the router (**See paragraph 162 lines 7-8 indicating the polling interval is adjusted and stored**); wherein the communication unit is operable to send the data repeatedly to the router according to the sending interval (**See paragraphs 160-163**

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indicating the terminal continuously sending data to the router within the polling interval), and

a longest response interval is detected as the holding period (i.e. PUT receiving intervals – paragraph 163) in the router (i.e. Fig. 4 Gateway 101) out of a plurality of response data sent by the server apparatus (i.e. Fig. 4 HTTP server) in response to the plurality of data sent **(As detailed paragraphs 136 and 163 the gateway 101 of Figure 4 can tell the longest response interval stored between the consecutive HTML packets and PUT packets intervals to determine the holding interval).**

Kaito'532 fails to disclose setting a period shorter than the holding period as a sending interval at which the data is sent.

However, the above mentioned claimed limitations are well known in the art as evidenced by Sen. In particular, Sen discloses setting a period shorter than the holding period **(i.e. timeout period varies between 1 to 3 minutes)** as a sending interval **(i.e. keep alive frequency)** at which the data is sent **(“PING” keep alive sent message sent periodically to the router/NAT – see page 7, lines 3-11 shorter than the hold or timeout period and RTP packets are sent to keep the connection through the Router/NAT alive as detailed in lines 6-20 of page 11).**

In view of the above, having the computer executable program of Kaito'532 and then given the well established teaching of Sen, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the computer executable program of Kaito'532 as taught by Sen, since Sen clearly states in

on page 11, lines 3-11 that the modification results in keeping the connection through a router/NAT such as Kaito'532's router/gateway.

Regarding **claim 46**, it is noted that the limitations of claim 46 corresponds to that of claim 33 as discussed above, please see the Examiner's comments with respect to claim 33 as set forth in the rejection above.

Regarding **claim 47**, it is noted that the limitations of claim 47 corresponds to that of claim 37 as discussed above, please see the Examiner's comments with respect to claim 37 as set forth in the rejection above.

Regarding **Claim 48**, Kaito'532 discloses a communication system (**See Figure 4**) comprising:

a server apparatus (**i.e. Figure 4, element 106**) connected to an external network (**i.e. Figure 4, Internet**);

a terminal apparatus (**i.e. Figure 4, element 102**) connected to a network (**i.e. Figure 4, In-home network**);

a router (**i.e. Figure 4, element 101**) which connects the external network (**i.e. Figure 4, Internet**) and the network (**i.e. Figure 1, element 1**);

wherein the router holds a corresponding relationship between a global address assigned to the router and a local address of the terminal apparatus (**In paragraphs 138-139 Kaito'532 discloses address conversion unit 209 shown in Figure 5 and contains relationship between global and local address**) for a predetermined period of time (**i.e. Polling Interval - where the session is up**); and the terminal apparatus comprises:

a communication unit (**i.e. Figure 4, element 102 - the PDA communication interface unit has infrared ports**) operable to send and receive data to and from the server apparatus (**i.e. Figure 4, element 106**) via the router during a polling (**i.e. inquiry interval – paragraphs 175 and 177**) interval (**i.e. Figure 4, element 101 – see also showing terminal element 104 communicating with server element 106 through router device 101**); and

an adjustment unit (**i.e. Figure 5 element 207**) operable to detect a holding period during which the corresponding relationship is held in the router (**See paragraph 162 lines 7-8 indicating the polling interval is adjusted and stored**); wherein the communication unit is operable to send the data repeatedly to the router according to the sending interval (**See paragraphs 160-163 indicating the terminal continuously sending data to the router within the polling interval**), and

said adjustment unit (i.e. Figure 5 element 207) is operable to detect a longest response interval as the holding period (i.e. PUT receiving intervals – paragraph 163) in the router (i.e. Fig. 4 Gateway 101) out of a plurality of response data sent by the server apparatus (i.e. Fig. 4 HTTP server) in response to the plurality of data sent by said terminal apparatus (i.e. Figure 4, element 102 is the terminal apparatus. As detailed paragraphs 136 and 163 the gateway 101 of Figure 4 can tell the longest response interval stored between the consecutive HTML packets and PUT packets intervals to determine the holding interval).

Kaito'532 fails to disclose setting a period shorter than the holding period as a sending interval at which the data is sent.

However, the above mentioned claimed limitations are well known in the art as evidenced by Sen. In particular, Sen discloses setting a period shorter than the holding period (**i.e. timeout period varies between 1 to 3 minutes**) as a sending interval (**i.e. keep alive frequency**) at which the data is sent (**“PING” keep alive sent message sent periodically to the router/NAT – see page 7, lines 3-11 shorter than the hold or timeout period and RTP packets are sent to keep the connection through the Router/NAT alive as detailed in lines 6-20 of page 11**).

In view of the above, having the system of Kaito'532 and then given the well established teaching of Sen, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the system of Kaito'532 as taught by Sen, since Sen clearly states in on page 11, lines 3-11 that the modification results in keeping the connection through a router/NAT such as Kaito'532's router/Gateway.

Regarding **claim 49**, Kaito'532 discloses a communication system wherein the terminal apparatus further includes a generation unit (**packet processing unit 204 of Figure 9**) operable to generate data to be sent to the server apparatus (**Figure 9, element 204 generates data to be sent to server 106 of Figure 4**);

wherein the generation unit is operable to generate the data that includes at least the following information in a header part: the local address of the terminal apparatus as a sender's address (**Kaito'532 discloses in paragraph 157 the header contains local address as sender address**);

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a local port number of the terminal apparatus as a sender's port number (**See paragraph 166**);

an address of the server apparatus as a destination address (**See paragraph 170**); and a port number of the server apparatus as a destination port number, and to generate the data that includes at least the following information in a data part (**See paragraph 134 showing the destination port number is the port number of server 106 of Figure 4**): a unique terminal ID of the terminal apparatus (**Kaito'532 shows a unique home electronics ID in Fig. 6 element 303 included in the header**);

and the server apparatus (**Server 106 of Figure 4**) includes:

a second communication (**Figure 4, element 31**) unit operable to send and receive the data that includes the terminal id of the terminal apparatus (**Figure 4 server uses element 31 for sending and receiving data**);

a terminal information storage unit (**Figure 4, element 105 is a database**) operable to store the following information as a set of terminal information: the terminal ID of the terminal apparatus (**i.e. Figure 6, element 303**); a global address of the router which is a sender's address (**i.e. Paragraph 132**); and a global port number of the router which is a sender's port number (**The router/gateway is the interface to the external network and its global address has to be used for any communication**); and

a packet generation unit (**See Figure 1, element 204**) operable to obtain, from the terminal information storage unit (**Figure 4, element 105**), the global address and the global port number which correspond to the terminal id when a control request to

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control the terminal apparatus with the terminal ID occurs. (**message exchanges shown in Figure 4 depict the packet generation unit 204 of Figure 1 retrieving global address and global port number based on terminal id retrieved from incoming HTML control request as indicated in paragraphs 138-141).**

Regarding **claim 50**, it is noted that the limitations of claim 50 corresponds to that of claim 37 as discussed above, please see the Examiner's comments with respect to claim 37 as set forth in the rejection above.

Regarding **claim 51**, Kaito'532 discloses a terminal apparatus, wherein the terminal apparatus (**i.e. Figure 4, element 104 and Fig. 13, element 807**) is a home terminal apparatus (**element 104 is a video terminal and element 807 is an oven**).

Regarding **claim 52**, Kaito'532 discloses a terminal apparatus, wherein the terminal apparatus (**i.e. Figure 3, element 1407 and Fig. 4 element 102**) is an internet terminal (**element 1407 is a PC while element 102 is a PDA**).

Regarding **claim 53**, Kaito'532 discloses a terminal apparatus, wherein the plurality of apparatuses (**i.e. Figure 13, elements 804 and 807**), are home appliance (**i.e. the elements are ovens**).

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HABTE MERED whose telephone number is (571)272-6046. The examiner can normally be reached on Monday to Friday 10:30AM to 7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung S. Moe can be reached on 571 272 7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/Habte Mered/
Examiner, Art Unit 2474

/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2474